

Listing of the Claims:

1. (Currently Amended) A system for cutting a bone at a desired location, including:
a drill cylinder having a body that defines a central bore, and an element configured to be detected by an image guidance system to permit image guidance of the drill cylinder to a target location on the bone; and
a cutting block having
a frame,
a first guide adjustably connected to the frame,
a first adjustor connected to the frame, ~~and~~
a first mounting location defined by the frame and configured to attach to the bone at the target location,
the first guide defining a first cutting path having a position, the position of the first cutting path relative to the first mounting location being adjustable linearly using a grip of the first adjustor,
a second guide adjustable connected to the frame, and
a second adjustor connected to the frame,
the second guide defining a second cutting path having a position, the position of the second cutting path relative to the first mounting location being adjustable angularly using a grip of the second adjustor.
2. (Original) The system of claim 1, wherein the drill cylinder includes a handle connected to the body and configured to permit manual positioning of the body.
3. (Original) The system of claim 1, wherein the drill cylinder includes an array of elements configured to be detected by the image guidance system.

4. (Original) The system of claim 1, wherein the cutting block frame includes a plurality of channels configured to support the first guide and accommodate movement of the first guide during adjustment of the first cutting path.

5. (Original) The system of claim 1, wherein the first guide includes a pair of substantially parallel guide walls extending between a pair of end portions, the guide walls and the end portions defining the first cutting path.

6. (Original) The system of claim 1, wherein the first mounting location includes a bore defined by the frame.

7. (Original) The system of claim 1, wherein the frame defines a second mounting location, the first mounting location and the second mounting location being located on an attachment wall of the frame.

8. (Currently Amended) The system of claim 1, wherein the frame further includes a mounting plate coupled to the frame to accommodate linear adjustment of the position of the second ~~first~~ cutting path.

9. (Currently Amended) The system of claim 8, wherein the mounting plate is further configured to accommodate angular adjustment of the second ~~first~~ cutting path.

10. (Currently Amended) The system of claim 9, wherein the mounting plate includes an arcuate channel for supporting a post connected to the second ~~first~~ guide, the arcuate channel defining a path of angular adjustment of the second ~~first~~ cutting path.

11. (Currently Amended) The system of claim 1, wherein ~~the cutting block further includes a second guide defining a second cutting path having a position,~~ the position of the second cutting path relative to the first mounting location ~~is being~~ adjustable linearly.

12. (Original) The system of claim 11, wherein the position of the second cutting path relative to the first mounting location is adjustable using a second grip of the first adjustor.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Original) The system of claim 1, wherein the frame includes a first end wall, a second end wall, a first side wall extending between the end walls, and a second side wall extending between the end walls.

17. (Original) The system of claim 16, wherein the first guide is connected between the side walls adjacent the first end wall.

18. (Currently Amended) The system of claim 17, wherein ~~the cutting block further includes a second guide defining a second cutting path,~~ the second guide is being adjustably connected to the frame between the side walls.

19. (Original) The system of claim 18, wherein the cutting block further includes a third guide defining a third cutting path, the third guide being adjustably connected to the frame between the side walls.

20. (Original) The system of claim 19, wherein the cutting block further includes a fourth guide defining a fourth cutting path, the fourth guide being adjustably connected to the frame between the side walls adjacent the second end wall.

21. (Original) The system of claim 20, wherein the second guide and the third guide are positioned between the first guide and the fourth guide.

22. (Original) The system of claim 21, wherein the second guide is positioned between the first guide and the first mounting location and the third guide is positioned between the fourth guide and the first mounting location.

23. (Original) The system of claim 1, wherein the position of first guide is adjustable linearly relative to the first mounting location using the first adjustor.

24. (Currently Amended) The system of claim 20, wherein the cutting block further includes ~~a second adjustor~~, a third adjustor, and a fourth adjustor, the first guide and the second guide being adjustable linearly relative to the first mounting location using the first adjustor, ~~the second guide being adjustable angularly relative to the first mounting location using the second adjustor~~, the third guide and the fourth guide being adjustable linearly relative to the first mounting location using the third adjustor, and the third guide being adjustable angularly relative to the first mounting location using the fourth adjustor.

25. (Original) The system of claim 1, further including a tracking instrument having an engagement portion and an element configured to be detected by the image guidance system to permit image guidance of adjustments of the first cutting path relative to the first mounting location when the engagement portion is placed in engagement with the first cutting path.

26. (Original) The system of claim 25, wherein the tracking instrument includes a plurality of elements configured to be detected by the image guidance system.

27. (Original) The system of claim 25, wherein the engagement portion includes a plate configured to fit within the first cutting path.

28. (Original) The system of claim 25, wherein the engagement portion includes a tip positioned at an end of the tracking instrument that is substantially opposite the element.

29. (Currently Amended) A system for locating a planar cut through a portion of a bone, including:

an image guided drill cylinder having a body that defines a central bore configured to receive one of a drill bit and a pin, and a tracking element coupled to the body;

a receiver configured to sense a present location of the tracking element and provide location signals representing the present location of the tracking element;

a processor coupled to the receiver, the processor being configured to receive the location signals and to determine, based upon the location signals and data representing a target location on the bone, a present location of the central bore relative to the target location;

a display coupled to the processor, the display being configured to generate images representing the present location of the central bore relative to the target location so that the drill cylinder may be moved until the present location of the central bore registers with the target location; and

a cutting block having a frame including a first mounting location configured to connect the cutting block to the bone at the target location, ~~and~~ a first guide adjustably mounted to the frame for movement relative to the first mounting location, the first guide defining a first cutting path adapted to guide a saw for creating the planar cut when the first guide is adjusted such that the first cutting path is in a position corresponding to the planar cut, and a second guide defining a second cutting path having a position, the position of the second cutting path relative to the first mounting location being adjustable angularly.

30. (Original) The system of claim 29, wherein the cutting block frame includes a pair of channels positioned to support the first guide during adjustment of the first cutting path.

31. (Original) The system of claim 29, wherein the first guide includes a pair of guide walls substantially defining the first cutting path.

32. (Original) The system of claim 29, wherein the frame defines a second mounting location, the first mounting location and the second mounting locations being located on an attachment wall of the frame.

33. (Currently Amended) The system of claim 29, wherein the frame further includes a mounting plate coupled to the frame to accommodate linear adjustment of the position of the second ~~first~~ cutting path.

34. (Currently Amended) The system of claim 33, wherein the mounting plate is further configured to accommodate angular adjustment of the second ~~first~~ cutting path.

35. (Canceled)

36. (Currently Amended) The system of claim 29 ~~claim 35~~, wherein the cutting block further includes a second adjustor having a grip, use of the second adjustor grip causing angular adjustment of the position of the second cutting path.

37. (Currently Amended) The system of claim 29 ~~claim 35~~, wherein the cutting block further includes ~~a second guide defining a second cutting path, the second guide being adjustably connected to the frame,~~ a third guide defining a third cutting path, the third guide being adjustably connected to the frame, and a fourth guide defining a fourth cutting path, the fourth guide being adjustably connected to the frame.

38. (Original) The system of claim 37, wherein the second guide is positioned between the first guide and the first mounting location and the third guide is positioned between the fourth guide and the first mounting location.

39. (Original) The system of claim 37, wherein the first guide is adjustable linearly relative to the first mounting location using a first adjustor having a grip.

40. (Original) The system of claim 39, wherein the cutting block further includes a second adjustor, a third adjustor, and a fourth adjustor, the first guide and the second guide being adjustable linearly relative to the first mounting location using the first adjustor, the second guide being adjustable angularly relative to the first mounting location using the second adjustor, the third guide and the fourth guide being adjustable linearly relative to the first mounting location using the third adjustor, and the third guide being adjustable angularly relative to the first mounting location using the fourth adjustor.

41. (Original) The system of claim 29, further including a tracking instrument having an engagement portion and an element configured to be detected by the receiver to permit image guidance of adjustments of the first cutting path relative to the first mounting location when the engagement portion is placed in engagement with the first cutting path.

42. (Original) The system of claim 41, wherein the engagement portion includes a plate configured to fit within the first cutting path.

43-59. (Canceled)

60. (Original) A cutting block configured to guide a cutting instrument during a bone cutting procedure, including:

- a frame;

- a first mounting location defined by a portion of the frame;

- a first guide coupled to the frame, the first guide including a first surface defining a first cutting path;

- a second guide coupled to the frame, the second guide including a second surface defining a second cutting path;

- a first adjustor coupled to the first guide, the first adjustor including a first grip configured to permit a user to actuate the first adjustor, thereby causing linear movement of at least a portion of the first cutting path relative to the first mounting location; and

- a second adjustor coupled to the second guide, the second adjustor including a first grip

configured to permit a user to actuate the second adjustor, thereby causing angular movement of the second cutting path relative to the first mounting location.

61. (Currently Amended) The cutting block system of claim 60, wherein the frame includes a first pair of channels configured to support the first guide and accommodate movement of the first guide during adjustment of the first cutting path, and a second pair of channels configured to support the second guide and accommodate movement of the second guide during adjustment of the second cutting path.

62. (Currently Amended) The cutting block system of claim 60, wherein the first guide includes a guide wall extending between a pair of end portions, the first surface being disposed on the guide wall.

63. (Currently Amended) The cutting block system of claim 60, wherein the frame defines a second mounting location, the first mounting location and the second mounting locations being located on an attachment wall of the frame.

64. (Currently Amended) The cutting block system of claim 60, wherein the frame further includes a mounting plate coupled to the frame to accommodate linear adjustment of the position of the second cutting path relative to the first mounting location.

65. (Currently Amended) The cutting block system of claim 64, wherein the mounting plate includes an arcuate channel configured to accommodate angular adjustment of the second cutting path.

66. (Currently Amended) The cutting block system of claim 60, wherein the position of the second cutting path relative to the first mounting location is adjustable using a second grip of the first adjustor.

67. (Currently Amended) The cutting block system of claim 66, wherein use of the second grip causes linear adjustment of the position of the second cutting path.

68. (Currently Amended) The cutting block system of claim 60, wherein the frame includes a first end wall, a second end wall, and a pair of substantially parallel side walls extending between the end walls.

69. (Currently Amended) The cutting block system of claim 68, wherein the cutting block further includes a third guide defining a third cutting path, the third guide being adjustably connected to the frame between the side walls.

70. (Currently Amended) The cutting block system of claim 69, wherein the cutting block further includes a fourth guide defining a fourth cutting path, the fourth guide being adjustably connected to the frame between the side walls adjacent the second end wall.

71. (Currently Amended) The cutting block system of claim 70, wherein the second guide is positioned between the first guide and the first mounting location and the third guide is positioned between the fourth guide and the first mounting location.

72. (Currently Amended) A system for cutting a bone at a desired location, including:
a drill;
an element attached to the drill and configured to be detected by an image guidance system to permit image guidance of a drill bit connected to the drill to a target location on the bone; and
a cutting block having
 a frame,
 a first guide adjustably connected to the frame,
 a first adjustor connected to the frame, and
 a first mounting location defined by the frame and configured to attach to the bone at the target location,

the first guide defining a first cutting path having a position, the position of the first cutting path relative to the first mounting location being adjustable using a grip of the first adjustor,

a second guide adjustable connected to the frame, and

a second adjustor connected to the frame,

the second guide defining a second cutting path having a position, the position of the second cutting path relative to the first mounting location being adjustable angularly using a grip of the second adjustor.

73. (Currently Amended) A system for locating a planar cut through a bone, including:
means for image guiding a drill to create a bore in a target location of the bone;
means for providing a cutting path to guide a saw for creating the planar cut;
means for mounting the providing means to the bone at the target location;
means for image guiding the providing means; and
means for adjusting a position of the providing means relative to the mounting means,
wherein the means for adjusting includes means to adjust a first cutting path linearly and a second cutting path angularly.